

cash income is gross cash income less all cash expenses such as for feed, seed, fertilizer, property taxes, interest on debt, wages to hired labor, contract labor and rent to non-operator landlords. 4) Net farm income is gross farm income less cash expenses and non-cash expenses, such as capital consumption, perquisites to hired labor, and farm household expenses. 5) Net farm income is a longer-term measure of the ability of the farm to survive as a viable income-earning business. 6) Net cash income is a shorter-term measure of cash flow.

**Floodplain**—The lowland that borders a stream or river and is found outside of the floodway. It is usually dry, but subject to flooding.

**Fluvial**—Pertaining to rivers or streams.

**Flyway**—A general term used to describe common migrating patterns among different bird species, based on definite geographic regions.

**Groundwater**—Water in the porous rocks and soils of the Earth's crust; a large proportion of the total supply of fresh water.

**Herbicide**—A type of pesticide used to kill or control vegetation.

**Hispanic or Latino Origin**—A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

**Hydrology**—The study of the distribution, movement, and chemical makeup of surface and ground waters.

**Introduced Species**—Species that have evolved elsewhere and have been transported and purposely or accidentally disseminated by humans. Other terms used to describe these species are alien, exotic, non-native, and non-indigenous.

**Invasive Species**—A species that is non-native to the ecosystem under consideration, and whose introduction causes or is likely to cause harm to the economy, environmental, or human health.

**Karst**—A type of topography formed by the dissolution of carbonate rocks and characterized by caves, sinkholes, and underground drainage.

**Low-income**—Individuals or households falling below the poverty threshold.

**Median Household Income**—The income level which divides the income distribution of all of the households in a given area into two equal groups; half of the households having incomes above the median, and half having incomes below the median.

**Minority population**—A population composed of a minority group and exceeding 50 percent of the population in an area or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population.

**Mitigation**—A method or action to reduce or eliminate adverse impacts.

**Native Species**—A species that occurs naturally in a given area or region without deliberate assistance by humans.

**Nutrient**—Usually nitrogen or phosphorus. Excessive inputs of a nutrient can stimulate algal growth. Sources of nutrients include runoff from fields and pastures, discharges from septic tanks and feedlots, and emissions from combustion.

**Overland Flow**— The flow of non-infiltrating precipitation over land surface toward stream channels (once water enters the stream or channel, it is considered runoff).

**Ozone**—A highly reactive molecule composed of three oxygen atoms. Environmentally, ozone is important in two completely separate contexts—one, as a naturally occurring screen of harmful radiation in the outer atmosphere (i.e., stratospheric ozone), and two, as a component of polluting smog formed from emissions resulting from human activities (i.e., urban smog). In the stratosphere 7 to 10 miles above the Earth, naturally occurring ozone acts to shield the Earth from harmful radiation.

**Particulate Matter**—Air pollutants, including dust, soot, dirt, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust.

**Pastureland**—A land use/land cover category of land managed primarily for the production of introduced forage plants for livestock grazing. For the Natural Resource Inventory, this includes land that has a vegetative cover of grasses, legumes, and/or forbs, regardless of whether or not it is being grazed by livestock.

**Perquisite**—A payment or profit received in addition to a regular wage or salary.

**Pesticide**—Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest (i.e., insects, animals, weeds, fungi, or microorganisms). The term pesticide refers to insecticides, herbicides, fungicides, and various other substances used to control pests.

**Poverty area**—An area in which at least 20 percent of the residents are below the poverty threshold.

**Poverty Thresholds**—For statistical purposes (e.g., counting the poor population), the U.S. Census Bureau uses a set of annual income levels (poverty thresholds) that represent a Federal Government estimate of the point below which a household of a given size has cash income insufficient to meet minimal food and other basic needs. They were developed in the 1960s, based largely on estimates of the minimal cost of food needs, to measure changes in the poor population. The thresholds differ by household size and are adjusted annually for overall inflation.

**Race**—Classification which includes White, Black or African American, American Indian or Alaskan Native, Asian, and Native Hawaiian or Other Pacific Islander.

**Rangeland**—A land use/land cover category of land on which the potential vegetation is composed principally of native grasses, grasslike plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland. Under the Natural Resource Inventory definition, this would include areas where introduced hardy and persistent grasses, such as crested wheatgrass, are planted and such practices as deferred grazing, burning, chaining, and rotational grazing are used, with little or no chemicals or fertilizer being applied.

**Riparian Areas**—Lands adjacent to rivers and streams that are influenced by flooding. They are considered transition zones between the aquatic and terrestrial ecosystem that are connected by direct land-water interaction.

**Runoff**—Non-infiltrating precipitation entering a stream or other conveyance channel.

**Sediment**—Any finely divided organic and/or mineral matter derived from rock or biological sources that have been transported and deposited by water or air.

**Sedimentation**—The process of depositing sediment from suspension in water.

**Threatened Species**—A species of plant or animal that is federally designated as likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

**Total Maximum Daily Load (TMDL)**—A TMDL identifies the amount of a specific pollutant or property of a pollutant, from a point source (“end of the pipe”), a non-point source (from runoff), and natural background sources, including a margin of safety, that may be discharged to a water body and still ensure that the water body attains water quality standards.

**Turbidity**—A measure of water cloudiness which is caused by sediments or other particles suspended in the water column.

**Watershed**—The land across and under which water flows on its way to a stream, river, lake, or other water body; the surface drainage area above a specified point on a stream.

**Wetlands**—Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas.

**Woodland**—A land cover/land use category that includes wooded pastureland and wooded non-pastureland.

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**APPENDIX A  
DRAFT CONSERVATION RESERVE ENHANCEMENT PROGRAM  
AGREEMENT FOR THE ILLINOIS RIVER WATERSHED IN  
ARKANSAS**

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## **APPENDIX A—CONSERVATION RESERVE ENHANCEMENT PROGRAM ILLINOIS RIVER WATERSHED PROPOSAL STATE OF ARKANSAS**

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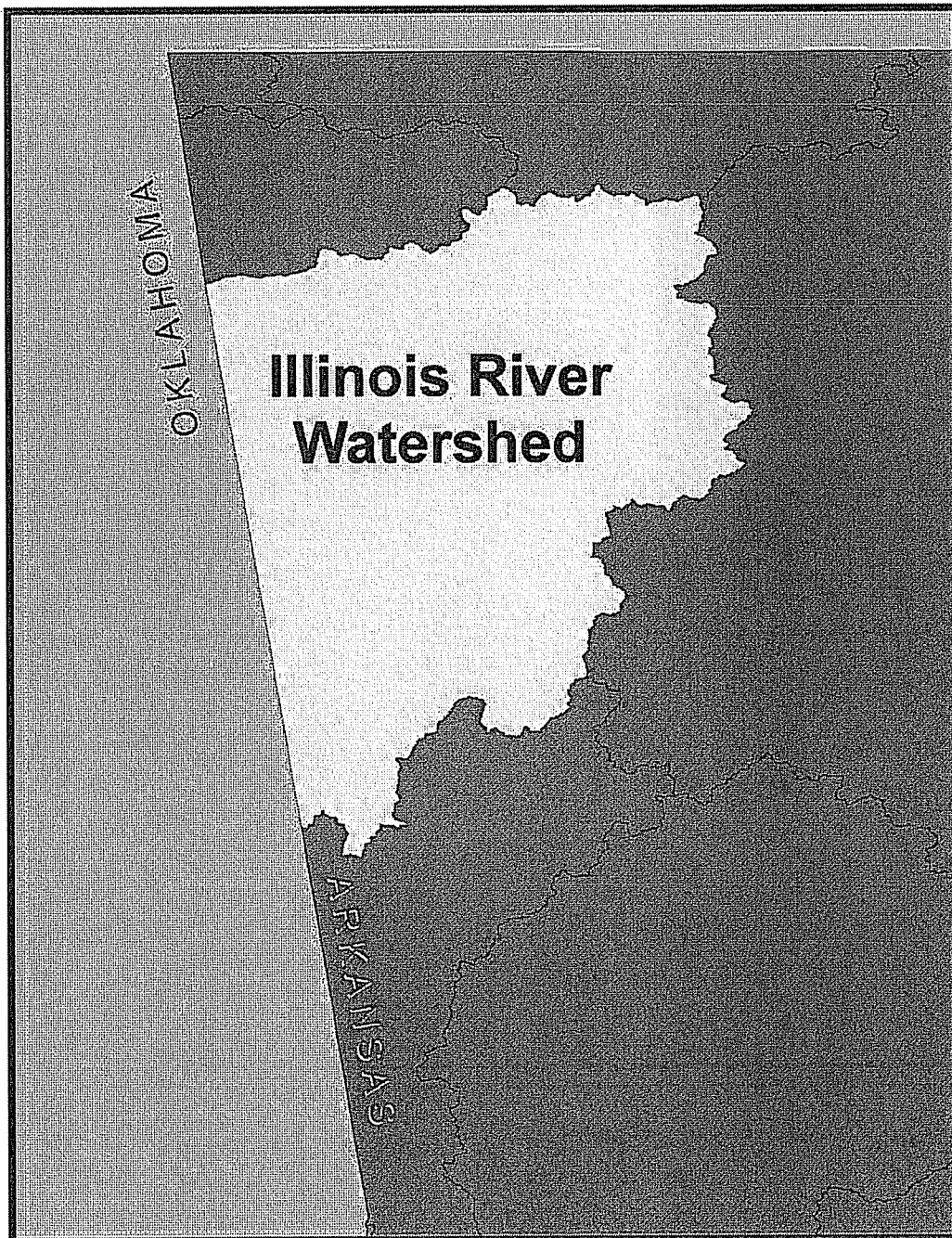
The following pages of this appendix contains the Draft *Conservation Reserve Enhancement Program (CREP) Illinois River CREP Proposal State of Arkansas*. This draft proposal is dated May, 2007.



**Conservation Reserve Enhancement Program (CREP)  
Illinois River CREP Proposal**

**State of Arkansas**

**Benton and Washington Counties**



**May 2007**



## Section 1 - Abstract

Arkansas has chosen a high priority watershed in the northwestern portion of the State as the focus of a Conservation Reserve Enhancement Program (CREP) proposal. This watershed was chosen not only because it is a high priority for the State, but also because the water quality problems and sources of contaminants are representative of their regions and of problems that can be significantly addressed with protection of riparian areas.

This project aims to restore stable riparian vegetation and riparian buffers to these systems and to reduce livestock impacts to floodplains. This will result in less overland flow of pathogens (fecal indicator bacteria), sediments, and phosphorus to the streams and will stabilize the stream banks, resulting in less streambank erosion and subsequent stream sedimentation. This, in turn, will result in improved water quality, lower maintenance requirements to the road and highway system, and will help to preserve existing floodplain pasture.

The Illinois River Watershed is part of a major poultry growing and cattle producing area of the State and the nation. Poultry litter has been applied to the nutrient poor, thin, cherty soils of the area and they now grow luxuriant grass and support an important cattle industry. Excessive buildup of phosphorus over the years has polluted the receiving water bodies to the point they are now considered impaired by nutrients. Phosphorus and pathogenic bacteria now impair many of the area streams including the Illinois River.

The proposed CREP will attempt to protect 15,000 acres of riparian area in the Illinois River Watershed which has a total riparian area of approximately 101,098 acres. Practices to be used include CP22 (woody riparian buffers) and CP29 (native warm-season grass buffers) with modifications. Total project cost is estimated to be \$30,000,000 (\$24,000,000 Federal), 20% of which will be borne by non-federal partners (\$6,000,000 = \$3 mill. cash + \$3 mill. in-kind match).

A major impediment contributing to past failures has been that forested areas along the stream could not be signed up in USDA riparian programs even when they were small components of an otherwise un-forested buffer. Landowners do not want to pay for and maintain a fence at their expense as it crosses through forested areas. In the proposed Arkansas CREP program, monies will be available to pay for fencing and alternative water sources so ranchers fencing livestock out of the stream will still have access to water.

Additionally, strict guidelines concerning the width of riparian buffers sometimes deter otherwise willing landowners if the configuration of the stream is such that they will have trouble maneuvering equipment within the riparian zone or maintaining fences through frequent floods. Another deterrent to participation has been the inflexibility of federal programs concerning management of riparian zones. A state-designed CREP program in conjunction with existing conservation programs (with modifications) will overcome these obstacles.

The State of Arkansas proposes a program that will overcome all of these obstacles and be highly successful. The major components of the Arkansas CREP program will be the same riparian practices that have proven to be successful in Section 319 of the Clean Water Act projects, with some modification. Livestock will be prohibited access to the stream and alternatives will be presented to the producers that provide all the services they were realizing from the stream prior to project implementation.

## Section 2 - Existing Conditions

Agricultural producers in the area have already been subjected to significant regulations relating to the use of poultry litter and nutrient management and further water quality degradation will likely result in increased regulation on the industry. Agriculture is a very important industry to the State and as such, it is critical that we take steps to reduce potential impacts from agricultural practices.

All waters within this segment have been designated as suitable for the propagation of fish and wildlife, primary and secondary contact recreation, as well as, public, industrial and agricultural water supplies (APCEC, 2001). The Illinois River Watershed portion of segment 3J contains 152 stream miles in which 125.1 stream miles were monitored at eight permanent monitoring stations. An additional 8.1 stream miles were evaluated for a total of 133.2 stream miles monitored in the Illinois River watershed. Nonpoint source impacts affecting waters in this segment are primarily from pastureland that is also used for application of poultry litter as fertilizer. In addition, many activities contribute to the destabilization of the streambed and excessive bank erosion, including instream gravel removal, conversion of forest to pasture and removal of riparian buffers for construction and other activities. Road construction and maintenance also contribute to siltation problems.

Table 1 summarizes studies that have found impaired reaches of the Illinois River and its tributaries. In addition, nutrient enrichment of the waterbodies in this watershed is a concern, both from point and nonpoint sources. Known problems below wastewater treatment facilities do occur and are easily documented. However, detecting and determining the extent of impacts of the contributions of nutrients from nonpoint sources is difficult. Land use in the watershed is probably the best indicator of where nutrients have the greatest potential to impact water quality. Potentially, confined animal operations in high concentrations within a watershed can result in application of animal manures at nutrient rates greater than can be assimilated, resulting in nutrients being transported to adjacent streams during storm events. Improper management techniques of the nutrients also result in adjacent streams receiving nutrient inputs during storm events.

U.S. Geological Survey (USGS) and the Arkansas Natural Resources Commission (ANRC) cooperated on a project to collect and analyze water quality samples to estimate nutrient loads for nitrogen and phosphorus for 1997-1999 using regression analysis.

Total estimated phosphorus and nitrogen annual loads for calendar year 1997-1999 using regression techniques on 35 samples were similar to estimated loads derived from integration techniques on 1,033 samples. Nitrogen and phosphorus estimates were higher than for comparable undeveloped watersheds (Green et al, 2001).

Arkansas Department of Environmental Quality (ADEQ) surveyed macroinvertebrate and fish communities in the Illinois River in 1995-1996 to assess the impact of municipal wastewater treatment facilities on water quality and aquatic life communities. The study also characterized the effects of point source and nonpoint source pollution on seasonal

water quality (ADEQ, 1997). USGS collected periphyton samples at 51 stream sites in the Ozark Plateau to determine the effect of different land uses.

**Table 1: Review of Impaired Reaches, Illinois River Watershed**

<b>Reach Name</b>	<b>Seg.</b>	<b>Impairment</b>	<b>Impacts</b>	<b>Cause</b>	<b>Source</b>	<b>Comments</b>
Clear Creek	029	Primary Contact (ADEQ,		Pathogens (ADEQ, 2005)	Urban Runoff (ADEQ, 2005)	
Clear Creek, Mud Creek	029	Aquatic Life (ADEQ, 2005 and 1997)		Siltation and Turbidity	Agriculture & Urban Runoff (ADEQ, 2002)	
Muddy Fork	025		Aquatic Life (ADEQ, 1997)			
Illinois River	022, 023		Aquatic Life (ADEQ, 1997)	Habitat Limitations (ADEQ, 1997)		
Osage Creek	930		Aquatic Life (ADEQ, 1997)			Influenced by cold spring water
Spring Creek	931		Aquatic Life (ADEQ, 1997)			Influenced by cold spring water

Results indicate that periphyton communities are affected by natural and land-use related factors, including nutrients, dissolved organic carbon, alkalinity, canopy shading, suspended sediment, embeddedness, stream morphometry, and velocity (Peterson et al., 2002).

### ***Project Area Description***

Arkansas has chosen a high priority watershed in the northwestern portion of the State as the focus of a Conservation Reserve Enhancement Program (CREP) proposal. This watershed was chosen not only because it is a high priority for the State, but also because the water quality problems and sources of contaminants are representative of their regions and of problems that can be significantly addressed with protection of riparian areas.

The Illinois River Watershed lies within the Ozark Mountains Ecoregion. Land is level to highly dissected and is underlain by cherty limestone. Karst features and clear, spring-fed perennial streams are common. These clear or once-clear rivers and lakes are highly valued by the citizens of Arkansas for recreation and water supply.

This project aims to restore stable riparian vegetation and riparian buffers to these systems and to reduce livestock impacts to floodplains. This will result in less overland flow of pathogens (fecal indicator bacteria), sediments, and phosphorus to the streams and will stabilize the stream banks, resulting in less streambank erosion and subsequent stream sedimentation. This, in turn, will result in improved water quality, lower maintenance requirements to the road and highway system, and will help to preserve existing floodplain pasture.

The Illinois River Watershed is part of a major poultry growing and cattle producing area of the State and the nation. Poultry litter has been applied to the nutrient poor, thin, cherty soils of the area and they now grow luxuriant grass and support an important cattle industry. Excessive buildup of phosphorus over the years has polluted the receiving water bodies to the point they are now considered impaired by nutrients. Phosphorus and pathogenic bacteria now impair many of the area streams including the Illinois River.

The Illinois River Watershed contains approximately 1.1 million acres of which approximately 484,514 acres (44%) are in Arkansas and approximately 615,486 acres (56%) are in Oklahoma. The Illinois River Watershed portion of Water Quality Planning Segment 3J (HUC 11110103) occupies the northwestern corner of Arkansas and covers part of Benton County, a large part of Washington County and a small section of Crawford County. This segment includes the Illinois River and its tributaries within Arkansas. The main tributaries in Arkansas are Osage Creek, Flint Creek and Spring Creek.

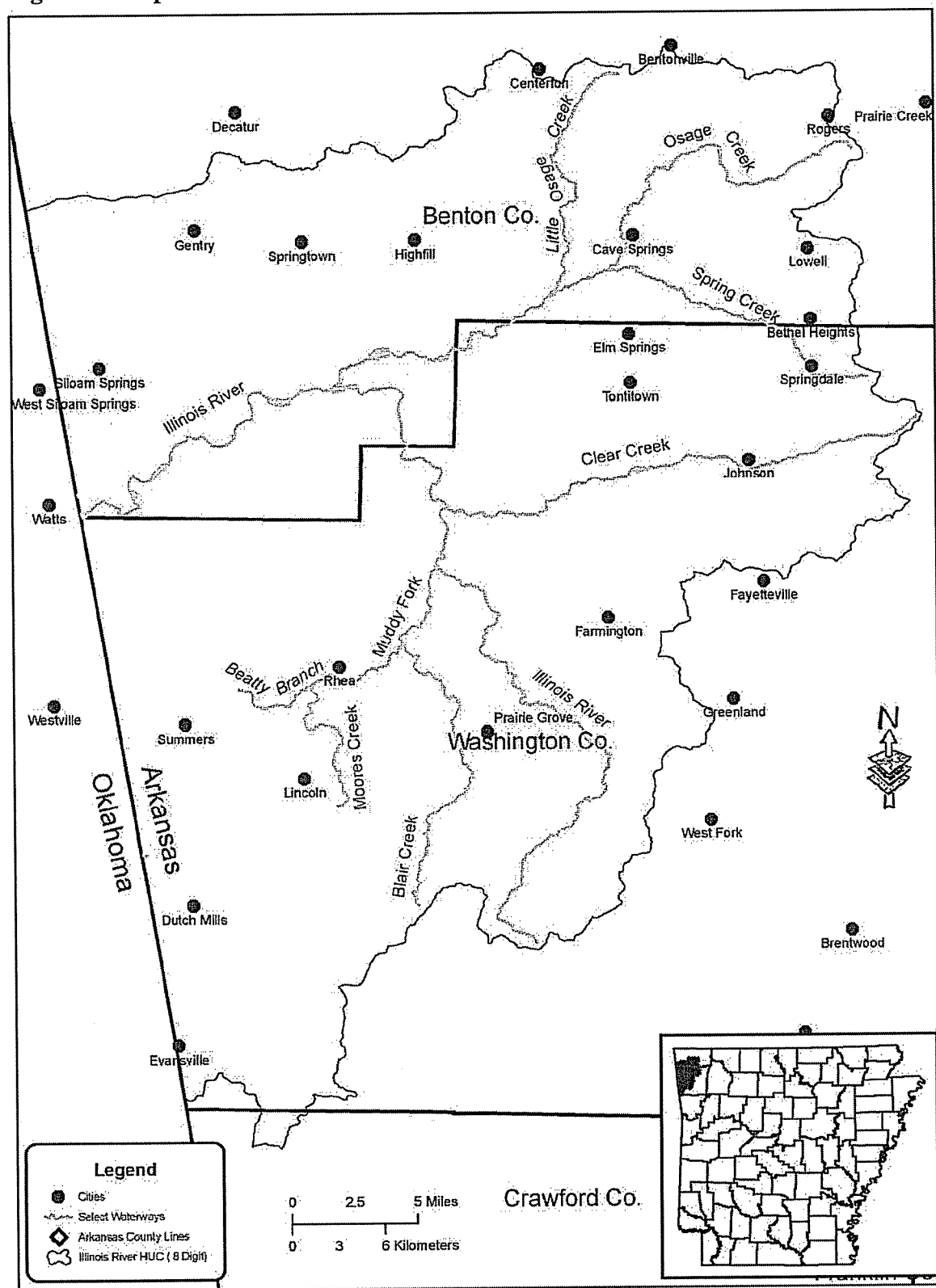
The proposed CREP will attempt to protect 15,000 acres of riparian area in the Illinois River Watershed which has a total riparian area of approximately 146,462 acres, of which 60,828 acres require vegetative reestablishment. Practices to be used include CP22 (woody riparian buffers) and CP29 (native warm-season grass buffers) with modifications. Total project cost is estimated to be \$30,000,000, of which 20% will be borne by non-federal partners (\$6,000,000).

### ***Map of the Area***

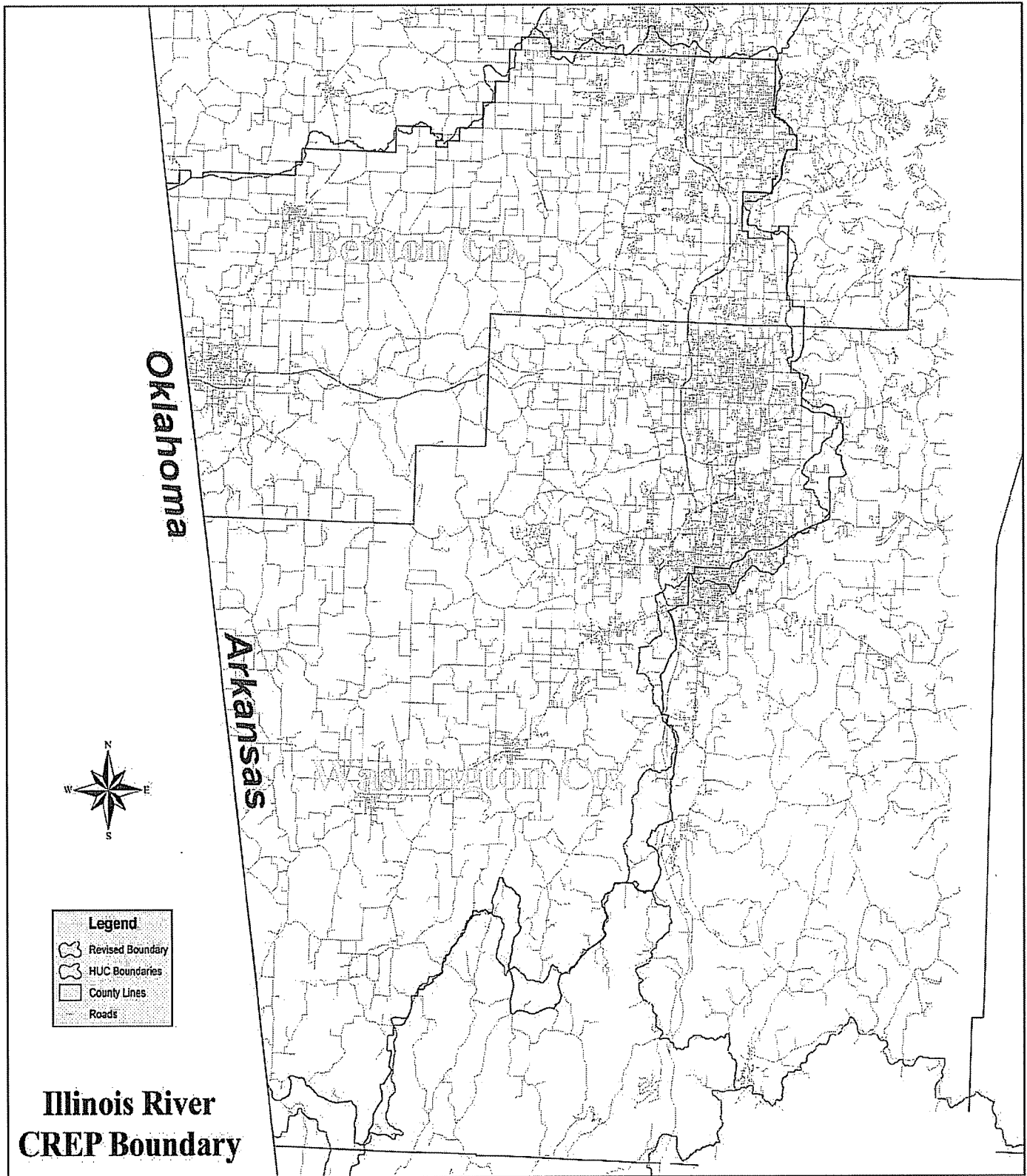
The proposed CREP would focus on the riparian area in the Arkansas portion of the Illinois River Watershed (Figure 1). Riparian protection is critical and one of the most effective strategies to address the water quality issues present in the watershed. The State believes that demonstrating the efficiency of riparian buffers in this high priority watershed is a critical step in reaching our ultimate goal of landowners accepting riparian protection as a standard practice of operation, much like terraces on a sloped field, or septic tanks for a rural residence. Figure 2 depicts the actual project boundary.



**Figure 1: Map of the Illinois River Watershed**



**Figure 2: Project Boundary within the Illinois River Watershed**



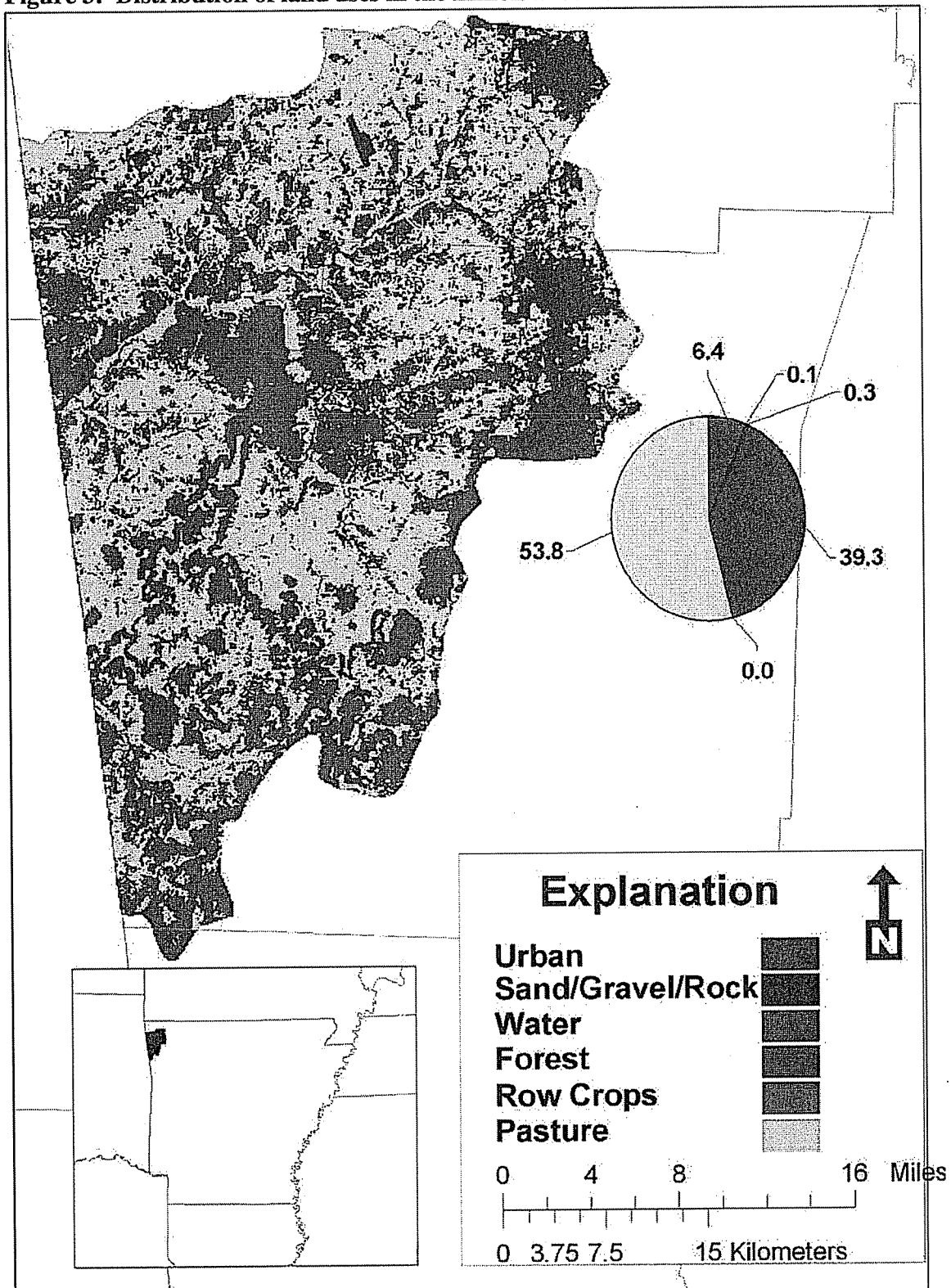
### ***Description of Human Activities and Landuses***

The following provide a partial snapshot of land uses in the watershed:

- There are seven drinking water sites in the Arkansas and Oklahoma portions of the watershed (USFS, 1999).
- The population of Washington and Benton counties grew 47% from 1990 to 2000, an increase of more than 100,000 individuals. Washington and Benton counties have continued to grow at a rapid pace from 2000 to 2003. Benton County added 12.1% and Washington County added 7.6% from 2000 to 2003 (University of Arkansas, 2005). As a result, there was significant new construction, including residential, commercial and industrial, roads and other infrastructure. Construction can be found both within municipal boundaries and in rural areas of the watershed where onsite waste disposal is used.
- An estimated 198,000 individuals live in the Arkansas portion of the watershed (Census, 2000).
- 12 municipalities and portions of Washington and Benton counties, as well as, the University of Arkansas are subject to Phase II requirements for a small municipal separate storm sewer system (MS4) National Pollution Discharge Elimination System (NPDES) permit. With leadership from the Northwest Arkansas Regional Planning Commission, all of these entities have joined together to work with the University of Arkansas Cooperative Extension Service to provide education and technical assistance.
- Northwest Arkansas produced more broilers in 2002 than any other area of the state, although production in other areas is gaining (NASS, 2002).
- The entire watershed is designated as a nutrient surplus area subject to new regulations for nutrient planning, nutrient application and certification of nutrient planners.
- 53.8% of the land area in the watershed was pasture in 1999 while 39.3% was forest and 6.4% was urban. Nearly one-quarter of the land area changed uses between 1992 and 1999 (CAST, 1999).
- The USFS estimated there were 62,643 acres of riparian areas in its 1999 assessment of aquatic conditions (USFS, 1999). Of these, nearly half were in agricultural use, primarily pasture.
- The USFS estimated there were 272.0 miles of roads in riparian areas in the Illinois River watershed in 1999, including 113.4 miles of unpaved roads (USFS, 1999).
- The watershed provides habitat for four federally protected species (Ozark Cavefish, Gray Bat, Ozark Big-eared Bat, Bald Eagle).
- Private non-industrial landowners and the national forest own most of the forestland in the watershed.
- Resource extraction (e.g., topsoil removal, gravel mining) primarily supports local construction projects.
- The State of Oklahoma lists the Illinois River watershed on its inventory of impaired water bodies.
- The State of Oklahoma also lists the Illinois River watershed on its scenic rivers list.

Further illustration of landuse distribution in the watershed can be seen in Figure 3.

**Figure 3: Distribution of land uses in the Illinois River Watershed**



Source: University of Arkansas Department of Biological and Agricultural Engineering, 2005.  
Final PEA for Implementation of the CREP Agreement for the Illinois River Watershed Arkansas



### ***Environmental Factors***

Average precipitation in the Illinois River Watershed is approximately 45 inches/year. Landforms are mostly moderately to highly dissected portions of the Ozark Plateau with narrow ridge tops separated by steep v-shaped valleys. Lesser amounts of nearly level undissected plateau also occur. Karst features occur and springs are common. Most of the smaller streams are perennial and the base flow, consisting largely of spring water, is clear and cool. Larger streams and rivers are also clear but their spring-fed base flow is also supplemented by point sources. These streams and rivers support one of the most diverse assemblages of sensitive fish species in the state.

The northern portion of the Illinois River watershed is on the Springfield Plateau in the Ozark Highland. The southern portion is in the Boston Mountains. The main soils on the broad uplands of the Springfield Plateau are Captina, Tonti, Peridge, Jay, and Taloka. Clarksville, Nixa, and Noark soils are the main soils in the dissected hilly areas. In the stream valleys, Secesh, Elsah, Britwater, and Captina soils are dominant. These soils are underlain by silty deposits or cherty limestone, or by alluvium derived from these sources. Soil associations in the Boston Mountains are underlain mainly by acid sandstone, siltstone, and shale, or by alluvium derived from these sources. Associations in this area are Allen-Hector-Enders, Enders-Allegheny-Hector, Linker-Apison-Hector, Fayetteville-Hector-Mountainburg, and Savannah-Cleora-Razort.

The area includes the Ozark Plateau and the northern portion of the Boston Mountains. Both are situated in the Ozark Mountains Ecoregion. Most of the natural vegetation is Oak-Hickory and Oak-Hickory-Pine forest. Predominant trees on the uplands include black, white, blackjack, northern red, and post oaks, various elms, sugar maple, and shortleaf pine. Dominant trees on floodplains are sycamore, American and red elm, willows, silver maple, box elder, and river birch.

The clear, cool, spring-fed streams are important biological resources in the state and the larger ones are important as recreational resources. The area has well-developed recreational industries centered around canoeing, rafting, swimming, and camping. Air quality is good and although pollution from the upwind population centers of the state is sometimes evident, the area does not experience any air quality alerts. Federally listed endangered species occur in the area including the Ozark Cavefish (*Amblyopsis rosae*), the Gray Bat (*Myotis grisescens*), the Ozark Big-eared Bat (*Corynorhinus townsendii ingens*), and the Bald Eagle (*Haliaeetus leucocephalus*).

### ***Section 3 - Agricultural-Related Environmental Impacts***

Throughout the last several decades, the poultry industry has achieved remarkable success in northwestern Arkansas where many streams and rivers arise, and is a critical part of the State and local economy. Through application of poultry litter to once infertile areas of native pasture or forest, a very successful beef cattle industry has grown alongside the poultry industry. Pastures fertilized with poultry litter are highly productive. Many floodplain forests have been converted to pasture in order to increase forage production, and in the process, many streamside riparian areas have been cleared and converted to pasture as well. Farm demographics for counties within the proposed CREP can be seen in Table 2.



**Table 2: Farm Demographics – 2002 Agricultural Census**

<b><u>Item</u></b>	<b><u>Benton</u></b>	<b><u>Crawford</u></b>	<b><u>Washington</u></b>
Number of Farms	2,376	916	2,800
Average Size of Farms (acres)	132	165	131
Average Farm Production Expenses	\$109,775	\$47,955	\$83,630
Average Farm Net Income	\$44,702	\$15,650	\$29,035
Average Age of Operator	53.1	53.4	54.5
Farming is Primary Occupation for Operator	1,307	471	1,525
Farming is not Primary Occupation for Operator	1,069	445	1,275
Operators Male	2,106	827	2,464
Operators Female	270	89	336
Cattle	113,588	30,295	112,650
Chickens	1,221,497	106,143	2,921,380
Swine	Withheld	133	56,051
Sheep	1,636	680	1,314
Turkey	1,435,810	192,687	1,013,421
Horses	3,570	1,519	4,963
Forage (dry tons)	183,362	67,147	222,687
Wheat (bushels)	--	162,756	5,672
Vegetables (acres)	1,078	1,745	167
Peanuts (lbs.)	--	--	--
Grain Sorghum (bushels)	Withheld	146,250	--
Corn (bushels)	--	316,110	--
Nursery Stock	Withheld	Withheld	Withheld
Pecans	Withheld	Withheld	116
Soybeans (bushels)	11,630	250,506	--
Field & Grass Seed (acres)	1,115	Withheld	137

The Natural Resources Conservation Service (NRCS) and U.S. Forest Service (USFS) completed a Cooperative River Watershed study for the Illinois River and published a Resource Base Report. The study found the Illinois River and many of the lakes on its tributaries were eutrophic from excessive nutrients (USFS and NRCS, 1992).

The Arkansas Water Resources Center (AWRC) prioritized sub-basins in the watershed in 1996 based on total phosphorus, total nitrogen and total suspended solids (Table 3). Each sub-basin was given a low, medium or high prioritization for each of the three factors (AWRC, 1996).

A USFS comparative assessment of 50 watersheds in Arkansas and Oklahoma estimates potential erosion by land use for the Upper White River watershed. The Upper White River watershed is adjacent to and east of the Illinois River basin. Based on 1992 National Resource Inventory (NRI) data, pasture land had the highest potential erosion rate at 72% compared to other lands (including urban) with a 15% potential erosion rate and forestry with a 2% potential erosion rate. Compared to 1982, potential erosion rates increased for pasturelands and decreased for other lands (USFS, 1999).

**Table 3: Sub-Basin Priority Ranking (AWRC, Parker et al., 1996)**

<b>Basin #</b>	<b>Basin Name</b>	<b>Total Phosphorus</b>	<b>Total Nitrogen</b>	<b>Total Suspended Solids</b>
110	Lake Wedington	Low	Low	Low
120	Ruby	Low	Medium	Medium
130	Goose Creek	Medium	Medium	High
140	Upper Illinois	High	Low	High
220	Hamstring	Low	Medium	Medium
221	Clear Creek	Medium	Medium	Medium
310	Fish	Low	Low	High
320	Robinson	Medium	Medium	Medium
330	Wildcat	Low	High	Low
340	Brush	Medium	High	Medium
351	Lower Osage	Medium	Medium	High
352	Upper Osage	High	High	High
360	Galey	Low	High	Low
371	Lick Branch	Low	Medium	Low
372	Little Osage	High	High	High
380	Spring	High	High	High
391	Cross	Medium	High	Low
392	Puppy	High	High	Medium
410	Muddy Fork	High	High	Medium
420	Blair Creek	Low	Low	Medium
430	Lower Moores	Medium	Medium	Medium
440	Upper Moores	Low	Low	Low
450	Kinion	High	Medium	Medium
510	Francis	Low	Medium	High
520	Gum Springs	Medium	Medium	Medium
530	Chambers	Low	Medium	Low
540	Pedro	Low	Medium	Low
550	Gallatin	Low	Medium	Low
610	Flint	Low	Medium	High
620	Little Flint	Medium	Medium	High
630	Sager	High	Medium	Medium
710	Cincinnati	High	High	Medium
720	Wedington	Medium	Medium	Medium
810	Upper Ballard	High	Low	High
820	Baron Fork	Low	Medium	Medium
830	Evansville	Low	Low	Medium
840	Fly Creek	High	Low	High

<u>Parameter</u>	<u>Priority Ranking Group</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>
<i>Total Phosphorus, kg/ha/yr</i>	0.05-0.065	0.065-0.95	0.95-1.85
<i>Total Nitrogen, kg/ha/yr</i>	0-5	5-15	15-52
<i>Total Suspended Solids, kg/ha/yr</i>	5-75	75-170	170-324